

What is claimed is:

- 1) **An orthotic device comprising a generally foot sole shaped base of a material that resists [deformation] flexing and having a metatarsal-phalangeal area and a heel area and including an interdigitated**
5 **portion in the metatarsal-phalangeal area of the orthotic device that underlies the metatarsal-phalangeal aspect of the foot of a user.**
- 2) **The orthotic device of claim 1 further including an interdigitated portion in the heel area that underlies the heel of a user.**
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- 3) **The orthotic device of claim 1 having an upper and a lower surface and a thickness wherein said interdigitated portion is defined by a relieved area [cut, attached or otherwise] formed in said lower surface and said relieved area defines one or more resilient prongs that flex to**
15 **store energy when the weight of a user is applied thereto and flex to release said stored energy when said weight is removed from said prongs.**
- 4) **The orthotic device of claim 3 wherein said relieved area is [cut or**
20 **otherwise] formed in said lower surface to allow depression [or deviation] from the main body of said device.**

5) The orthotic device of claim 2 wherein said orthotic has a thickness and an upper and a lower surface and said interdigitated portions are formed by relieved areas [cut or otherwise formed] formed in said lower surface to a depth adequate to allow depression or deviation of said interdigitated portions from the main body of said device.

6) The orthotic device of claim 1 fabricated from a material selected from the group consisting of graphite, graphite fibers, carbon, carbon-carbon composites, polymer composites, fiberglass and spring steel.

7) The orthotic device of claim 2 fabricated from a material selected from the group consisting of graphite, graphite fibers, carbon, carbon-carbon composites, polymer composites, fiberglass, spring steel.

8) The orthotic device of claim 3 wherein said resilient prongs have a base end at the point of attachment to said base and a distal end and wherein said distal end projects below said [lower surface] base end thereby providing an enhanced energy storage and release capability.

9) The orthotic device of claim 8 further including a fulcrum at said base end to further increase the energy storage and release capability of said resilient prongs upon deformation and release.

5 10) An orthotic device comprising a generally foot sole shaped base of a material that resists flexing and having a metatarsal-phalangeal area and a heel area and including an interdigitated portion comprising a generally radial array of inwardly extending prongs in the metatarsal-phalangeal area of the orthotic device that underlies the metatarsal-phalangeal aspect of the
10 foot of a user.

11) The orthotic device of claim 10 further including an interdigitated portion comprising a generally radial array of inwardly extending prongs in the heel area that underlies the heel of a user.

15 12) The orthotic device of claim 10 having an upper and a lower surface and a thickness wherein said interdigitated portion is defined by a relieved area formed in said lower surface and said relieved area defines one or more resilient prongs that flex to store energy when the weight of a user is applied
20 thereto and flex to release said stored energy when said weight is removed from said prongs.

13) The orthotic device of claim 12 wherein said relieved area is formed in said lower surface to allow depression from the main body of said device.

5 14) The orthotic device of claim 11 wherein said orthotic has a thickness and an upper and a lower surface and said interdigitated portions are formed by relieved areas formed in said lower surface to a depth adequate to allow depression or deviation of said interdigitated portions from the main body of said device.

10 15) The orthotic device of claim 10 fabricated from a material selected from the group consisting of graphite, graphite fibers, carbon, carbon-carbon composites, polymer composites, fiberglass and spring steel.

15 16) The orthotic device of claim 11 fabricated from a material selected from the group consisting of graphite, graphite fibers, carbon, carbon-carbon composites, polymer composites, fiberglass, spring steel.

20 17) The orthotic device of claim 12 wherein said resilient prongs have a base end at the point of attachment to said base and a distal end and wherein said distal end projects below said base end thereby providing an enhanced energy storage and release capability.

18) The orthotic device of claim 17 further including a fulcrum at said base end to further increase the energy storage and release capability of said resilient prongs upon deformation and release.